

MANCHESTER AIRPORT, LARGE HANGAR  
East edge of Manchester Airport,  
between East Apron and Kelly Avenue  
Manchester  
Hillsborough County  
New Hampshire

HAER No. NH-32-C

HAER  
NH  
6-MANCH  
13C -

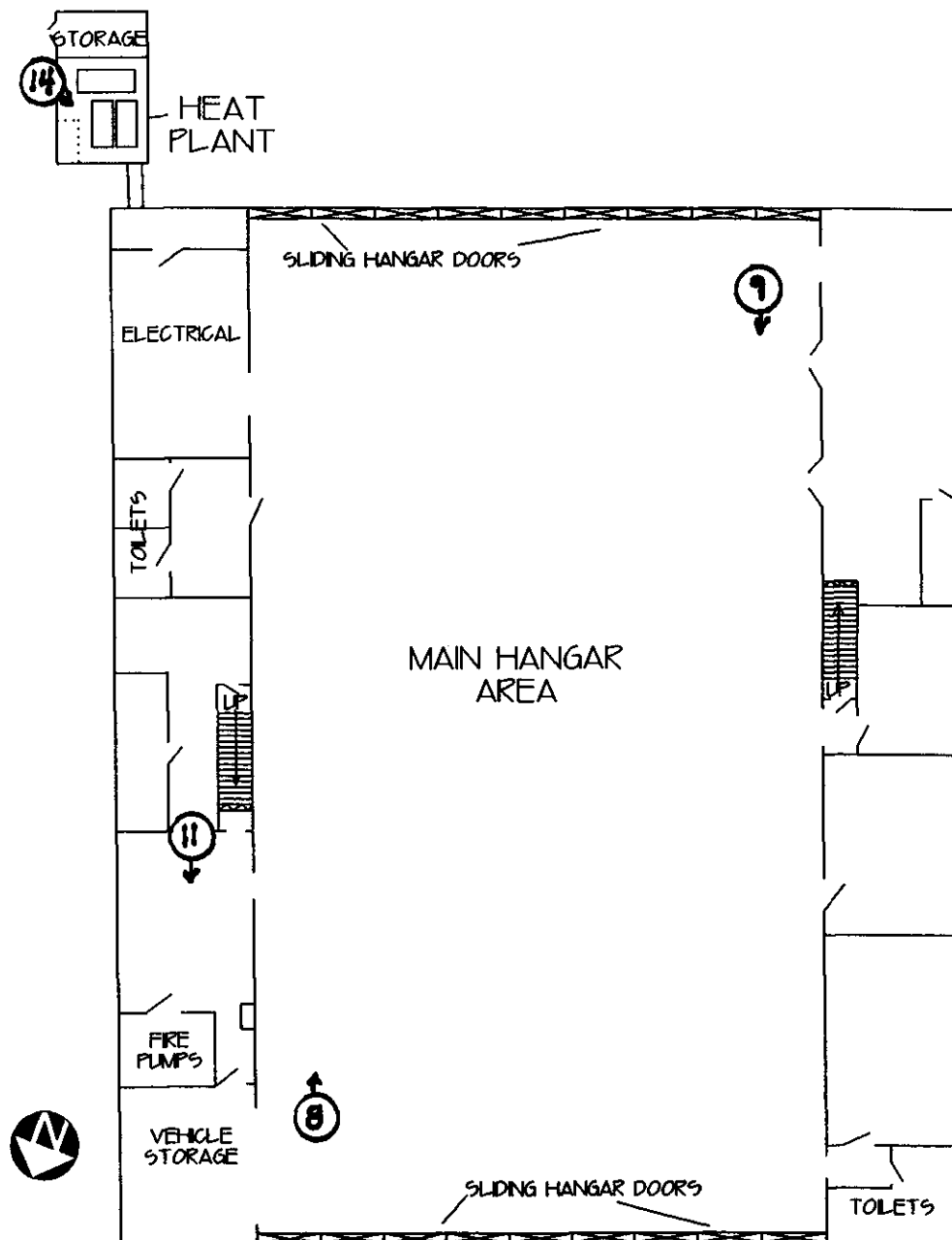
PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD  
National Park Service  
Northeast Region  
Philadelphia Support Office  
U.S. Custom House  
200 Chestnut Street  
Philadelphia, P.A. 19106

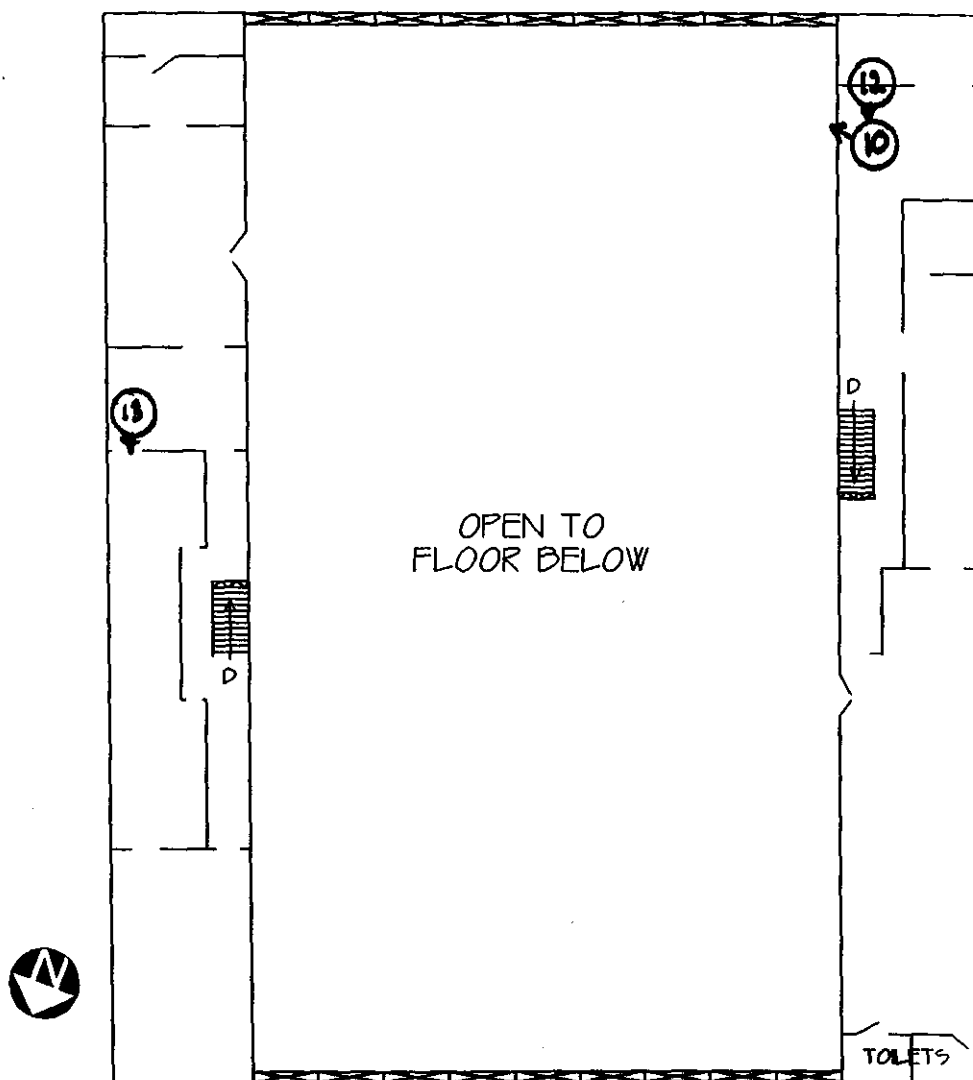
MANCHESTER AIRPORT,  
LARGE HANGAR  
HAER No. NH-32-C  
Key to Photographs  
(Page 3)

Interior Views  
First Floor



MANCHESTER AIRPORT,  
LARGE HANGAR  
HAER No. NH-32-C  
Key to Photographs  
(Page 4)

Interior Views  
Second Floor



**HISTORIC AMERICAN ENGINEERING RECORD**  
**MANCHESTER AIRPORT, LARGE HANGAR**

HAER  
NH  
6-MANCH  
13C-

HAER No. NH-32-C

**Location:** East edge of Manchester Airport, between East Apron and Kelly Avenue,  
Manchester  
Hillsborough County, New Hampshire  
Universal Transverse Mercator Coordinates: 19.301580.4756020  
USGS Manchester, New Hampshire, Quadrangle

**Date(s) of Construction:** 1941

**Engineer, etc.:** D.A. Sullivan Company, Northampton, Massachusetts

**Present Owner(s):** City of Manchester

**Present Occupant(s):** Vacant

**Present Use:** Not in use

**Significance:** The Large Hangar is significant for its association with World War II home-front construction and mobilization in support of the air war over Germany. It is also significant as an example of World War II-era U.S. Army Air Corps standard aircraft hangar construction.

**Project Information:** Manchester Airport, in association with the Federal Aviation Administration (FAA), proposes to remove three buildings associated with the airport's historic development for new construction. A memorandum of agreement outlining stipulations to mitigate adverse effects was drafted by Manchester Airport, FAA, and New Hampshire State Historic Preservation Officer (NHSPO), and was accepted by the Advisory Council on Historic Preservation. Stipulations include recordation of the Manchester Airport Complex, Terminal Building, Brick Hangar, and Large Hangar, to Historic American Engineering Record (HAER) standards. The Public Archaeology Laboratory, Inc. of Pawtucket, Rhode Island, was retained by The Smart Associates, Environmental Consultants, Inc., on behalf of the Airport and FAA, to prepare the HAER documents.

Stephen A. Olausen, Senior Architectural Historian  
Matthew A. Kierstead, Industrial Historian  
The Public Archaeology Laboratory, Inc.  
210 Lonsdale Avenue  
Pawtucket, RI 02860

## **PART I. DESCRIPTIVE INFORMATION**

The Large Hangar is located at the east edge of the Manchester Airport, between the East Apron and Kelly Avenue, which parallels the Boston & Maine Railroad tracks. The east elevation fronts onto Kelly Avenue and the other elevations front onto tarmac taxiway and storage areas for light planes. The Large Hangar is a rectangular, 200- by 163-ft, steel-frame, structure sheathed in corrugated steel siding and set on a concrete slab foundation. An air raid siren is located at the south gable peak, and incandescent electric floodlights are located at the corners of the roof. The building is longitudinally divided into three sections, with a large, central, open aircraft storage space, with an attached, 21 ft wide, two story, shed-roofed administration and support wing on the east and west sides. The open central area has a smooth concrete floor sheltered by a built-up, asphalt-and-plank, shallow-gable roof supported by a series of 11 bolted steel Howe trusses. A 4-ton capacity electrically-driven overhead crane runs on a hung craneway located along the east and west walls. The two-story administration and support wings are lit by long bands of multi-pane, steel-sash windows on the first and second floors. The interior spaces consist of rooms of various sizes with permanent or temporary walls, linked by corridors or accessible only from the ground floor hangar space. Some are identifiable as vehicle storage, latrine, office, or physical plant spaces, however, these rooms appear to have been modified over time and do not reflect their original configuration.

The most notable engineering features are the large, multi-leaf, sliding steel doors, which with their movement mechanism infrastructure, dominate the north and south elevations. The door assembly consists of ten horizontally-sliding leaves that part at the center with five leaves moving east and five moving west. The leaves hang from rollers that ride on a series of parallel overhead tracks, and bear on wheels that rest on corresponding steel tracks in the ground. The overhead tracks are housed in a protective awning that runs the width of the doorway elevation, and the bottoms of the doors stop against a concrete bumper with rubber stops. The doors were originally opened and closed by a small truck housed in the hangar. Personnel doors are located in the outer and central door panels.

The heating building is located on Kelly Avenue, at the southeast corner of the hangar, and is linked to the hangar by a short length of insulated steam pipe. This building is a 32- by 26-ft, one-story, flat-roofed structure sheathed in corrugated steel siding and set on a concrete slab foundation. The entrance is located on the east elevation and consists of a paneled wood personnel door. Fenestration consists of multi-pane, steel-sash windows located high on the walls. A timber-framed, shed-roofed, plank-clad addition with swinging wood double-doors on the east and west ends is attached to the south elevation. The heating building houses three abandoned, oil-fired, steam boilers.

Two small, one-story, steel-walled, gable-roofed, modern electrical vault buildings are located adjacent to the southwest corner of the building.

## **PART II. HISTORICAL INFORMATION**

The 1995 New Hampshire Division of Historical Resources *Area Form for the Grenier Field Historic District* by Lynne Emerson Monroe and Kari Ann Federer recounts the history of the structure as follows:

**MANCHESTER AIRPORT,  
LARGE HANGAR  
HAER No. NH-32-C  
(Page 3)**

The Large Hangar was designed according to standardized military specifications (Series 400) and erected by the D.A. Sullivan Company of Northampton, Massachusetts. The building was completed in late Spring of 1941 as part of the U.S. Army Air Corps' construction of Grenier Field. Also known as Building 414, or Hangar 53, it is located in what was known as the Flight Line area. The Large Hangar first accommodated the aircraft maintenance operations of the U.S. Army Air Corps 33rd Air Base Group, which was responsible for providing final training and supply for U.S. Eighth Air Force bombing squadrons bound for the air war in the European Theater. Later in the war, when Grenier Field became the North Atlantic Air Transport Command headquarters, the Large Hangar was used for servicing Boeing B-17 bombers and other aircraft being ferried to air bases in England. The building was also associated with the operations of an anti-submarine squadron responsible for patrolling northern New England's Atlantic coast. The Large Hangar included spaces for storage of supplies, parachutes, tools and general supplies, as well as aircraft maintenance administration offices.

After the war, the Flight Line area was occupied by the New Hampshire Air National Guard, which used it for Korean War fighter pilot training. In 1958 the Air National Guard moved to a new facility at Grenier Field, and the history of the Large Hangar's role during this period is unknown, however, the 232nd Troop Carrier Squadron was stationed in the Flight Line area during the 1960s. Now vacant, the Large Hangar was most recently occupied by a United Parcel Service air shipment operation.

### **PART III. SOURCES OF INFORMATION**

#### **A. Engineering drawings:**

None located.

#### **B. Historic views:**

None located.

#### **C. Interviews:**

None conducted.

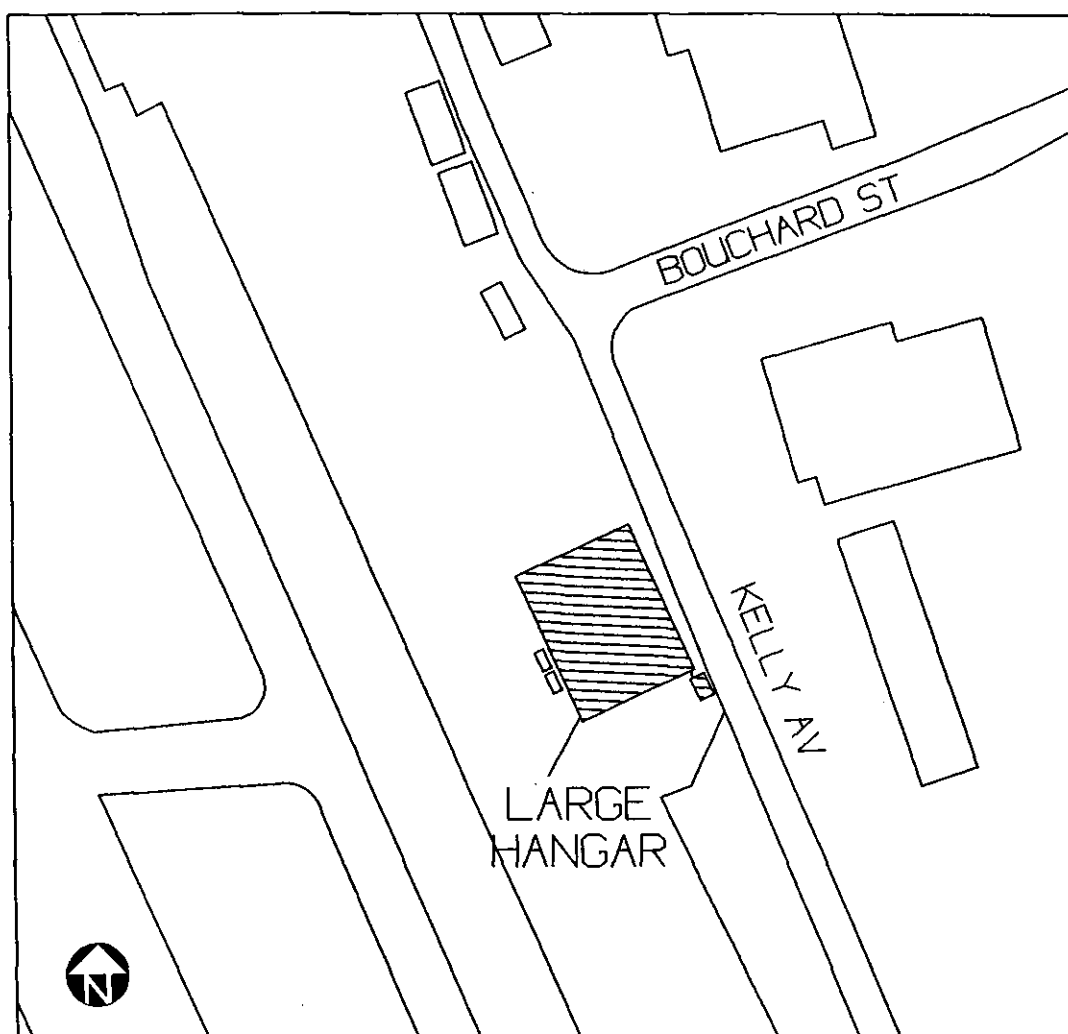
#### **D. Bibliography:**

Monroe, Lynne Emerson and Kari Ann Federer

1995 *Area Form for the Grenier Field Historic District*. New Hampshire Division of Historical Resources, Concord, NH.

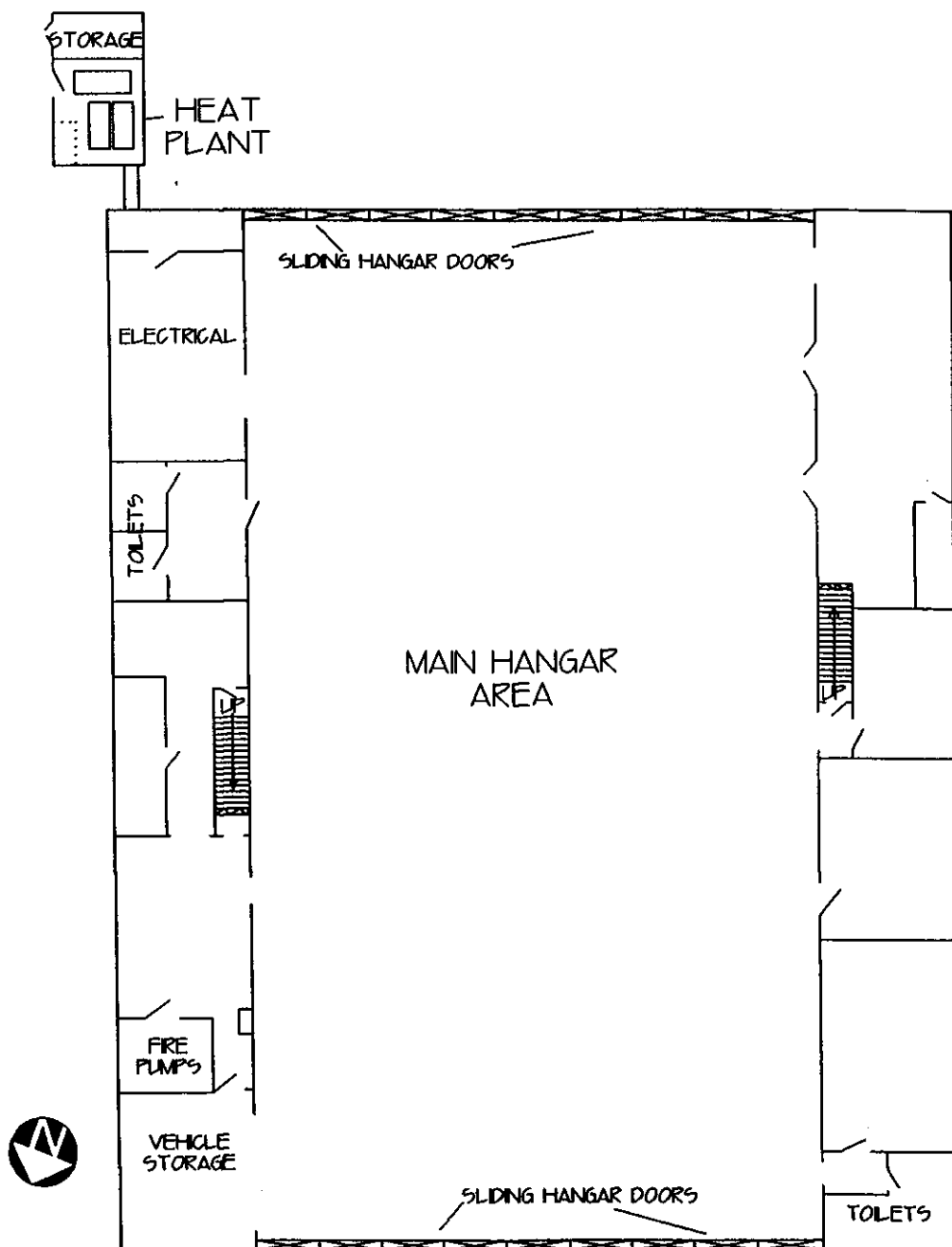
**MANCHESTER AIRPORT,  
LARGE HANGAR  
HAER No. NH-32-C  
(Page 4)**

**Site Plan**



MANCHESTER AIRPORT,  
LARGE HANGAR  
HAER No. NH-32-C  
(Page 5)

First Floor Plan





MANCHESTER AIRPORT,  
LARGE HANGAR  
HAER No. NH-32-C  
(Page 6)

Second Floor Plan

